

REMARKS

This is in response to the non-final Official Action currently outstanding with regard to the present application.

Claims 1-33 were pending in this application at the time of the issuance of the currently outstanding Official Action. By the foregoing Amendment, numerous of Claims 1-33 have been amended for the purpose of improving their phraseology and/or maintaining consistency in the phraseology thereof. In addition, Claims 34-49 have been added and no Claims have been canceled or withdrawn by the foregoing Amendment. Accordingly, upon the entry of the foregoing Amendment, Claims 1-49 will constitute the Claims under active prosecution in this application.

The Claims of this application as they will stand upon the entry of the foregoing Amendment are reproduced above including appropriate status identifiers and indications of the amendments made to the claims by this Amendment as required by the Rules.

More particularly, in the currently outstanding Official Action the Examiner has:

1. Failed to acknowledge Applicants' claim for foreign priority under 35 USC 119 (a)-(d) or (f), and confirm the receipt of the required copies of the priority documents by the United States Patent and Trademark Office;
2. Failed to indicate whether or not the drawings as filed with this application are acceptable;
3. Failed to acknowledge his consideration of the Information Disclosure Statements filed in this application by providing the Applicants with a copies of the Form PTO-1449's that accompanied those Statements duly signed, dated and initialed to confirm the consideration of the art listed therein; and

4. Rejected Claims 1-33 under 35 USC 103(a) as being unpatentable over (US Patent 6,052,103) to Fujiwara et al in view of (US Patent 5,734,291) to Tasdighi et al.

With respect to items 1-3 above, Applicants recognize that the Examiner has previously dealt with each of the matters discussed above in the Final Official Action dated 30 March 2004. Accordingly, Applicants' mention of those issues in these Remarks is simply for the purpose of maintaining a complete record throughout the prosecution of this application.

With respect to item 4 above wherein the Examiner has rejected Claims 1-33 under 35 USC 103(a) as being unpatentable over (US Patent 6,052,103) to Fujiwara et al in view of (US Patent 5,734,291) to Tasdighi et al., Applicants respectfully traverse the currently outstanding rejection for the reasons set forth below.

The Examiner has the burden of showing that all of the individual elements claimed are present in the references cited. Further, the Examiner has the burden of showing that there is a direct, or at least an inherent, suggestion to a person of ordinary skill in the art contained within the four corners of the references relied upon to combine those elements in the manner claimed. In addition, it is incumbent upon the Examiner to show that the combination upon which he relies in rejecting the claims of an application under 35 USC 103(a) would have a reasonable probability of successfully accomplishing its goal. More particularly, the criteria necessary to the establishment of the *prima facie* case of unpatentability required to justify a rejection of the claims of an application by an Examiner as stated in the Manual of Patent Examining procedure are as follows:

To establish a *prima facie* case of obviousness under Section 103, Title 35 United States Code (35 US §103), three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2D 1438 (Fed. Cir. 1991). (See, Manual of Patent Examining Procedure §2142 (8th Edition), at page 2100-2121, *et seq.*)

Applicants respectfully submit that the Examiner's position as stated in the currently outstanding Official Action constitutes an improper "obvious to try" argument (i.e., an argument that essentially uses the present claims and specification as a guide for the recreation of those claims using isolated elements of the prior art whose combination is not suggested by that prior art taken as a whole). Further, Applicants respectfully submit that the Examiner's position in the currently outstanding Official Action is based upon argument that improperly is based upon reasoning that does not include citations to specific prior art references to which the Applicants could effectively reply. Accordingly, Applicants respectfully submit that the Examiner has provided insufficient grounds in support of the combination of references upon which his rejection under 35 USC 103(a) are based.

Thus, according to Applicants understanding of the Examiner's outstanding rejection, the Examiner alleges in the currently outstanding Official Action that the Fujiwara reference discloses an active matrix display device having a scanning mode and a hold mode. Applicants agree that this appears to be at least generally correct. Further, the Examiner alleges that the Tasighi reference teaches charge pump devices having high and low power consumption modes of operation. Again, Applicants agree that the Examiner's characterization of the reference appears to be at least generally correct.

Applicants respectfully note, however, that the Examiner in the currently outstanding Official Action also concedes that the Fujiwara reference does not go into specifics concerning the power supply for the display device generally disclosed therein. Applicants also respectfully note that the Examiner asserts in support of his rejections under 35 USC 103(a) that because the elements necessary to construct the present invention were available in the art at the time that Applicants' invention was made, and because charge pump power supplies are commonly used in portable display device technologies, the present invention would have been obvious to a person of ordinary skill in the art. Applicants respectfully submit that the Examiner has failed to adequately support the foregoing conclusion in accordance with the above-quoted required *prima facie* showing of a case supporting a finding of unpatentability under 35 USC 103(a).

Accordingly, Applicants respectfully note that the Fujiwara disclosure taken alone by the Examiner's own admission is inadequate to either anticipate the present invention or to suggest the present invention to a person of ordinary skill in the art. Further, Applicants respectfully submit that the Tasighi disclosure, despite the Examiner's broad characterization of it, really discloses nothing more than the incorporation of a charge pump into an integrated DC to DC converter (i.e., to improve power consumption of DC to DC converters in portable devices having operational and standby modes of operation, specifically to reduce power consumption by portable devices in "standby" mode). Hence, Applicants respectfully submit that nothing directly disclosed in the art presently cited against the claims of this application teaches, discloses or suggests the probable success (much less the use) of the present invention's charge pump device as a power supply for controlling the internal operation of an active matrix device either in a portable device or otherwise.

In other words, Applicants respectfully submit that the control of a DC to DC converter so as to place it in either “standby” or “operational” mode is quite different from the presently claimed invention. Hence, the Examiner’s position in the currently outstanding Official Action accurately may be characterized as being nothing more than the application of an improper “obvious to try” standard in the context of attempting to duplicate the present claims by the assemblage of isolated elements of the prior art.

Applicants further, respectfully submit that the Examiner’s assertion in the currently outstanding Official Action, without the citation of any supporting authority or prior art to which Applicants effectively could respond, that it would be obvious in the context of the present invention to complete a change of power supply frequency prior to the preparation of a signal for use is totally improper in the present context.

Still further, Applicants respectfully submit that the present invention clearly and definitely differs from the cited references cited and applied by the Examiner in the currently outstanding Official Action with respect to (1) how the display is maintained in the hold mode, and (2) the layout of the elements of the invention that enables the maintenance of a display in the hold mode.

More specifically in this regard, it is to be noted that the Fujiwara reference relied upon by the Examiner describes at Column 8, lines 50-65 that the liquid crystal used is a cholesteric liquid crystal that has a memorizing capability. Further, at Column 9, lines 9-22 of the Fujiwara reference it is indicated that the potential of a pixel is caused to approach zero by actively increasing leak current so as to thereby maintain the display.

In contrast, in the present application at page 14, lines 1-10 it is stated that:

“...in the hold mode, ... the scanning signal line driver 5 outputs the non-scanning voltage (OFF voltage of TFT) to all scanning lines, thus maintaining display by the charge stored in the pixel electrode 3 and the auxiliary capacitor of each pixel”

Accordingly, Applicants respectfully submit that contrary to the Examiner's outstanding bases of rejection, there is a clear and definite difference between the Fujiwara reference and the present invention with respect to how the display is maintained in the hold mode (i.e., the use of a liquid crystal material in conjunction with an actively controlled leakage current in Fujiwara vs. the utilization of the charge stored in the pixel electrode 3, an auxiliary capacitor and related components).

Also, Applicants respectfully submit that it is to be noted that the layout of the electrodes etc. is explained in the present application at page 29, line 7 to page 30, line 10, as follows:

“... the auxiliary capacitor wires 133 are provided parallel to the scanning signal lines G on the glass substrate so that part of the auxiliary capacitor wires 133 is paired with the auxiliary capacitor electrode pads 3a with a gate insulating film (not shown) therebetween, on a position other than the area of the scanning signal lines G, i.e., avoiding the scanning signal lines G. This is to prevent, together with the auxiliary capacitor electrode pads 3a, capacitive coupling with the scanning signal lines G substantially completely. However, not limiting this arrangement, the auxiliary capacitor electrode pads 3a and the auxiliary capacitor wires 133 may be arranged differently as long as capacitive coupling with the scanning signal lines G is prevented substantially completely.”

This layout prevents variations of voltage across the liquid crystal capacitor CLC arising from noise on the scanning signal from the scanning signal line G upon input of the scanning signal from reaching a value where flickering becomes visible in the display (here, 3 volts or less). Accordingly, maintaining the present invention in hold mode for a period T3 enables high display quality with restricted flickering even when the TFT panel 2 is driven in a long vertical scan period T1.

Accordingly, it will be understood that the layout of the elements of the present invention (that is not shown, taught or suggested by the cited prior art cited and relied upon by the Examiner) provides significant and quantifiable advantages not achieved by the cited prior art.

Consequently, Applicants respectfully submit that not only is the present invention as presently claimed is not disclosed, taught or suggested by the art currently cited by the Examiner, but also the new claims added by the foregoing Amendment directed to the features just discussed are clearly supported by the present specification and totally outside of the scope or content of the references upon which the Examiner currently relies to support his outstanding rejection.

In summary, therefore, Applicants respectfully submit that the Examiner has overstepped to the appropriate bounds in his attempt to establish the *prima facie* case necessary to support his position in support of the unpatentability of the claims presently pending in this application. Accordingly, reconsideration and allowance of this application in response to this communication is respectfully requested.

Finally, Applicants also believe that additional fees beyond those submitted herewith are not required in connection with the consideration of this response to the currently outstanding Official Action. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge and/or credit Deposit Account No. 04-1105, as necessary, for the correct payment of all fees which may be due in connection with the filing and consideration of this communication.

Respectfully submitted,

Date: January 27, 2005

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SIGNATURE OF PRACTITIONER

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